



ACP-TURANDO OCEANSTAR

EC-Declaration of conformity

According to the EC-Machinery Directive 2006/42/EC, annex II A and amendments

Manufacturer: RUD Ketten Rieger & Dietz GmbH u. Co. KG
Friedensinsel 73432 Aalen
Germany

We hereby declare that the equipment sold by us because of its design and construction, as mentioned below, corresponds to the appropriate, basic requirements of safety and health of the corresponding EC-Machinery Directive 2006/42/EC as well as to the below mentioned harmonized and national norms as well as technical specifications. In case of any modification of the equipment, not being agreed upon with us, this declaration becomes invalid.

Product name: Automatic Center Point

ACP TURNADO

The following harmonized norms were applied: DIN EN 1677-1 : 2009-03
DIN EN ISO 12100 : 2011-03

The following national norms and technical specifications were applied: ASME B30.26 : 2015
DGUV-R 109-017 : 2020-12

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Aalen, 02.01.2026 Hermann Kolb, Head of division MA

Name, function and signature of the responsible person

DE ACP-TURNADO OCEANSTAR M8-M30.

2 ACP-TURANDO OCEANSTAR

Read the operating instructions thoroughly before using the screwable anchor points Automatic-CenterPoint-TURNADO OCEANSTAR (hereinafter referred to as ACP-TURANDO OCEANSTAR). Ensure that you have understood all contents. Failure to follow the instructions may result in personal and material damage and voids the warranty.

1 Safety Instructions

WARNINGIncorrectly installed or damaged ACP-TURANDO OCEANSTAR as well as improper use can lead to injuries to persons and damage to objects during a fall.Check all ACP-TURANDO OCEANSTAR carefully before each use. • During the lifting process, keep all body parts (fingers, hands, arms, etc.) out of the danger zone (risk of crushing). • Caution: risk of pinching when swiveling the bracket. • The ACP-TURANDO OCEANSTAR may only be used by authorized and trained persons, in accordance with DGUV rules 109-017 and the corresponding national regulations outside Germany. • The load capacity specified on the anchor point must not be exceeded. • The ACP-TURANDO OCEANSTAR must be rotatable by 360° when screwed in. • The ACP-TURANDO OCEANSTAR is not permitted for continuous rotational movements under load. • No technical modifications may be made to the ACP-TURANDO OCEANSTAR. • No persons may remain in the danger zone. • Staying under suspended loads is prohibited. • Sudden lifting (strong impacts) should be avoided. • Ensure a stable position of the load when lifting. Swinging must be avoided. • The screw must always be inserted from the side of the entry slope (or spring and labeling) into the socket. • Damaged or worn ACP-TURANDO OCEANSTAR must not be used.

2 Intended Use

ACP-TURANDO OCEANSTAR are approved for use in lifting operations in industry, in ports, for controlled lifting operations in protected waters and at sea, as well as for short underwater operations.The ACP-TURANDO OCEANSTAR are certified by DNV, Type Approval No. TAS00004Z0, and are thus suitable for marine and offshore applications (considering the application areas and conditions described there). The ACP-TURANDO OCEANSTAR may only be used for mounting to the load or to load handling devices. They are intended for hanging lifting equipment. The ACP-TURANDO OCEANSTAR can also be used as tie-down points for hanging tie-down equipment. The ACP-TURANDO OCEANSTAR may only be used for the purposes described here.

3 Assembly and Operating Instructions

3.1 General Information • Temperature suitability: For the ACP-TURANDO OCEANSTAR, the load capacities must be reduced according to the strength class of the screws as follows:-40°C to 100°C → no reduction100°C to 200°C minus 15% (212 to 392°F)200°C to 250°C minus 20% (392 to 482°F)250°C to 350°C minus 25% (482 to 662°F)Temperatures above 350°C (662°F) are not permitted!If the ACP-TURANDO OCEANSTAR is used within the application area of the DNV Type Approval, the following temperatures apply:-20 to 55 °CTemperatures below -20°C and above 55°C are not permitted!

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Note the maximum operating temperature of the supplied nuts (optional).• Lock nuts according to DIN EN ISO 7042 (DIN 980) may be used up to a maximum of +150°C. • Flange nuts according to DIN 6331 can be used up to +300°C. Additionally, observe the reduction factors. • The ACP-TURANDO OCEANSTAR must not be exposed to aggressive chemicals, acids, and their vapors. • Make the installation location of the ACP-TURANDO OCEANSTAR easily recognizable by color contrast marking. • The ACP-TURANDO OCEANSTAR are delivered by RUD with a crack-tested hexagon screw (see Table 2 / Table 3). M8-M30: 10.9 screw • Original 10.9 screws are available from RUD as spare parts. • When using self-supplied 10.9 screws, check them for 100% crack-free condition (written confirmation of crack-free condition must be included in the documentation). The average notch impact toughness at the lowest permitted usage temperature must be at least 36 J. This is required in the testing principles for lifting points GS-HM-36.

NOTE The disassembly/assembly for the replacement or inspection of the screw may only be carried out by a qualified person (see 3.4 Disassembly/Assembly of the RUD screw)!

Designs • The metric Vario lengths are delivered by RUD with a washer and a crack-tested nut according to DIN EN ISO 7042 or with a crack-tested flange nut according to DIN 6331. • If the ACP-TURANDO OCEANSTAR is used exclusively for lashing purposes, the value of the load capacity can be doubled: $LC = \text{permissible lashing force} = 2 \times \text{load capacity (WLL)}$

NOTE If the ACP-TURANDO OCEANSTAR has been loaded as a lashing point with a force exceeding WLL/load capacity, it must not be used as a lifting point afterwards! If the ACP-TURANDO OCEANSTAR has been loaded as a lashing point only up to the WLL/load capacity, it may continue to be used as a lifting point. • The marking of the ACP-TURANDO OCEANSTAR can be found here: • M8-M30: Marking on the top side of the socket and the screw (see Fig. 1).

Tightening Torque Load Capacity with Safety Factor 5:1 in "lbs" Strength Class of the Screw
Load Capacity with Safety Factor 4:1 in "t" Thread Size

Fig. 1: ACP-TURANDO OCEANSTAR M8-M30 Marking Socket/Screw

3.2 Installation NotesIn principle:

- Design the installation location so that the forces introduced are absorbed by the base material without deformation. The professional association recommends the minimum screw-in length: 1 x M in steel (minimum quality S235JR) 1.25 x M in cast (e.g., GG 25) 2 x M in aluminum alloys 2.5 x M in lightweight metals of lower strength (M = thread size, e.g., M 20)
- For lightweight metals, non-ferrous metals, and gray cast iron, the thread assignment must be chosen so that the thread load capacity meets the requirements of the respective base material.
- Position the ACP-TURANDO OCEANSTAR so that unacceptable stresses such as twisting or overturning of the load are avoided.
- Single-strand lifting: Arrange the hook vertically above the load center of gravity
- Double-strand lifting: Arrangement on both sides and above the load center of gravity
- Three- and four-strand lifting: Arrangement evenly in a plane around the load center of gravity
- Symmetry of loading: Determine the required load capacity of the individual lifting point for symmetrical loading according to the following physical formula relationship:
$$WLL = \frac{\text{required load capacity of the lifting point/single strand (kg)}}{G}$$
$$G = \frac{\text{load weight (kg)}}{n}$$
$$n = \text{number of supporting strands}$$
$$\beta = \text{inclination angle of the single strand}$$
$$WLL = \frac{G}{(n \times \cos \beta)}$$

The number of supporting strands is: Symmetry Double strand 2 Three-/Four-strand 3

Table 1: Supporting Strands (see also Table 4 / Table 5).

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NOTEIn the case of asymmetric loading, even when using multiple attachment points, the load capacity of a single attachment point must at least correspond to the load weight or consult the manufacturer.

- A flat mounting surface (ØE, Table 2 / Table 3) with a threaded hole introduced at a right angle must be ensured. The design of the thread must be according to DIN 76 (countersink diameter max. 1.05xd). Threaded holes must be made deep enough so that the contact surface of the attachment point can rest. Make the through holes according to DIN EN 20273-medium.
- The ACP-TURANDO OCEANSTAR must be rotatable by 360° when screwed in place. Please note the following:
- For a one-time transport operation, a hand-tightening until the ACP-TURANDO OCEANSTAR contact surface rests on the mounting surface with a wrench is sufficient. Caution: Do not exceed the specified tightening torque.
- If the ACP-TURANDO OCEANSTAR is to remain permanently on the load, tightening must be done with the tightening torque ($\pm 10\%$) according to Table 2 / Table 3.
- In the case of turning operations with the ACP-TURANDO OCEANSTAR (see section 3.3.3 Permissible Lifting and Turning Operations), tightening with the tightening torque ($\pm 10\%$) according to Table 2 / Table 3 is necessary.
- In the case of impact loading or vibration, especially with through-bolts with nuts, unintentional loosening may occur. Safety options: Adhere to the tightening torque or use liquid thread locking agents such as Loctite (adapted to the application case, observe manufacturer specifications).
- Finally, check the proper assembly (see section 4 Inspection / Maintenance / Disposal).

3.3 Notes on Use
3.3.1 General Use• Regularly inspect the entire attachment point before use (e.g., by the rigger) (correct mounting direction of the screw, firm screw seat, strong corrosion, cracks in load-bearing parts, deformations). See section 4 Inspection / Maintenance / Disposal. **WARNING**Incorrectly mounted or damaged ACP-TURANDO OCEANSTAR as well as improper use can lead to injuries to persons and damage to objects in the event of a fall. Carefully check all ACP-TURANDO OCEANSTAR before each

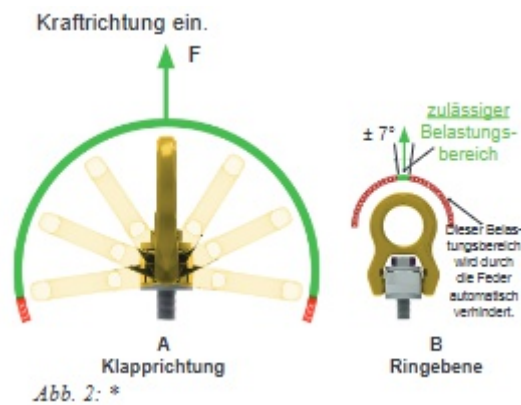
use.

- RUD components are designed according to DIN EN 818 and DIN EN 1677 for a dynamic load of 20,000 load cycles.
- Note that multiple load cycles may occur during a lifting operation.
- Be aware that due to high dynamic stress at high load cycle numbers, there is a risk that the product may be damaged.
- The BG/DGUV recommends: In the case of high dynamic loading with high load cycle numbers (continuous operation), the load tension must be reduced according to drive group 1Bm (M3 according to DIN EN 818-7). Use an attachment point with a higher load capacity.
- When attaching and detaching the lifting means (lifting chain), no crushing, catching, shearing, or impact points should occur during handling.
- Exclude damage to the lifting means due to sharp-edged loads.
- Before attaching the lifting means, adjust the ACP-TURANDO OCEANSTAR in the direction of force.

F B Ring plane A Lifting direction $\pm 7^\circ$ permissible load range This load range is automatically prevented by the spring.

Fig. 2: * A: In the lifting direction, the load is permissible up to the contact of the hook with the load. B: Non-permissible lateral load range in the ring plane of the hook (automatically prevented by the spring).

- Note that the lifting means must be freely movable in the attachment point ACP-TURANDO OCEANSTAR.

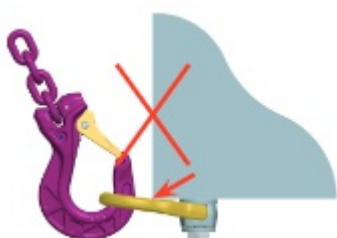


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Use only suitable lifting equipment for hanging in the ACP-TURANDO OCEANSTAR.

- A bending load on the bracket is not permitted!



The load bracket must be freely movable and must not rest against edges.

- Always screw the attachment point in completely.



The attachment point must be fully screwed in.

- Clean the ACP-TURANDO OCEANSTAR thoroughly with fresh water after each underwater use. This reduces susceptibility to corrosion.

General Information on the Spring

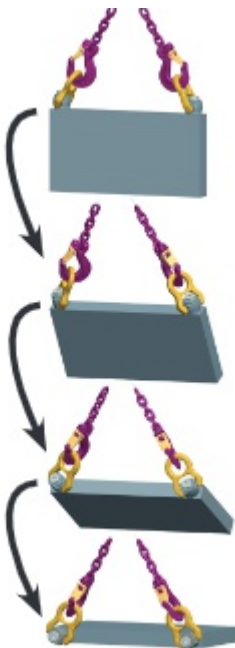
The spring keeps the bracket out of the shaded position in Abb. 7. This prevents the prohibited load "across the standing bracket" (see section 3.3.1, Abb. 2) from occurring. Under load, the spring force is overcome, and the ACP-TURANDO OCEANSTAR can be loaded vertically. However, folding the bracket over the area repelled by the spring is possible by hand with increased effort.



Detail view of the spring of the ACP-TURANDO OCEANSTAR M8-M30



The spring keeps the bracket out of the shaded position.



Permissible Lifting and Turning Operations

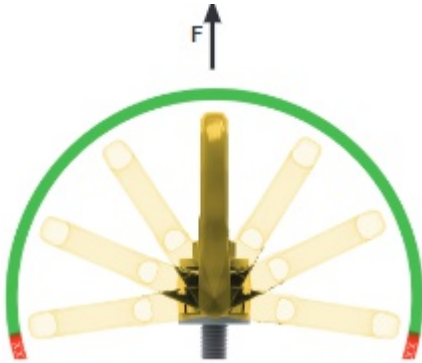
Possible turning operation with the ACP-TURANDO OCEANSTAR.

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The following processes are permitted:

- Turning processes in which the bracket is pivoted in the folding direction.

WARNING The bracket must not rest on edges or other attachment parts or be in contact there.



Pivoting in folding direction

WARNING Check the specified tightening torques before each lifting or turning process.

- After a maximum rotation of 180°, the tightening torque of the screw must be checked.
- Rotating around the screw axis under load, with the exception of section 3.3.4, is permitted.

3.3.4 Prohibited Lifting and Turning Processes

- Turning the ACP-TURANDO OCEANSTAR under load in the axial direction of the screw ($\pm 15^\circ$) is prohibited.
- Not suitable for continuous rotational movement under load.

3.4 Disassembly / Assembly of the RUD Screw

WARNING Always pay attention to the correct assembly direction of the screw: The screw must always be inserted into the socket from the side of the insertion slope (or spring and labeling for the ACP-TURANDO OCEANSTAR M8-M30).

NOTE The disassembly / assembly for the replacement or inspection of the screw may only be carried out by a qualified person!

3.4.1 Disassembly of the Screw



clamped!

1. Place the ACP-TURANDO OCEANSTAR with the threaded end facing up, resting on a support (e.g., vice) on the right and left of the screw head at the socket. Attention: The screw head must not be

2. By lightly tapping on the screw end, the screw can be driven out of the body of the ACP-TURANDO OCEANSTAR (Fig. 10). Attention: The screw end/thread must not be damaged.

Support of the ACP-TURANDO OCEANSTAR for disassembly of the screw.

3.4.2 Assembly of the Screws M8-M10

NOTE Only the strength class specified for the respective screw size may be used! M8-M10: 10.9 screw

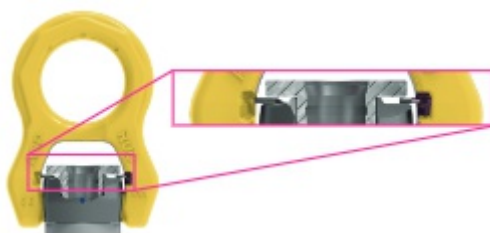
1. Insert the screw into the hole of the socket until the retaining ring rests against the socket.
2. Use flat pliers to compress the retaining ring so that it sits recessed in the groove of the screw.
3. Now press the screw completely into the socket with light hammer blows.
4. Finally, check the secure fit of the screw. The screw must be easily rotatable 360°.

3.4.3 Assembly of the Screws M12-M30

NOTE Only the strength class specified for the respective screw size may be used! M12-M30: 10.9 screw

1. Insert the screw into the socket designed with an insertion slope

ACP-TURANDO OCEANSTAR shown in section. The insertion slope can be seen at the upper socket.



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1. Insert the screw into the socket so that the retaining ring is recessed all around in the socket.

TIP: Then turn the screw a few turns under light pressure so that the retaining ring is centered!

Retaining ring recessed all around positioned in the counterbore.

1. By giving a light tap on the screw head, the screw can be mounted until the screw head rests against the socket.

2. Finally, check the secure fit of the screw. The screw must be easily rotatable 360°.

4 Inspection / Maintenance / Disposal

4.1 Notes on Regular Inspection

The operator must determine and establish the type and scope of the required inspections as well as the intervals for recurring inspections through a risk assessment (see sections 4.2 and 4.3). The ongoing suitability of the attachment point must be checked at least once a year by a qualified person. Depending on the operating conditions, e.g., with frequent use, increased wear, or corrosion, inspections may be required at shorter intervals than one year. The inspection is also necessary after damage incidents and special occurrences. The inspection cycles are to be established by the operator.

4.2 Inspection Criteria for Regular Visual Inspection by the User:

- Correct screw and nut size, screw quality, and screw-in length
- Correct mounting direction of the screw: The screw must always be inserted from the side of the entry slope (or spring and labeling) into the socket.
- Pay attention to secure screw fit → Check the tightening torque
- Completeness of the attachment point
- Complete, legible load capacity indication as well as manufacturer mark
- Deformations on load-bearing parts such as the base body, hook, and screw
- Mechanical damage such as deep notches, especially in areas under tensile stress
- Easy rotation of the ACP-TURANDO OCEANSTAR around the screw axis and flaps of the hook must be ensured
- Function of the spring (the hook must be kept from the vertical position, see paragraph 3.3.2, Fig. 7).

4.3 Additional Inspection Criteria for the Qualified Person / Maintenance Technician:

- Cross-sectional changes due to wear > 10%
- Severe corrosion
- Function and damage of the screws, nuts, and screw threads (3.4 Disassembly / Assembly of the RUD screw).

Further inspections may be necessary depending on the results of the risk assessment (e.g., inspection for cracks in load-bearing parts).

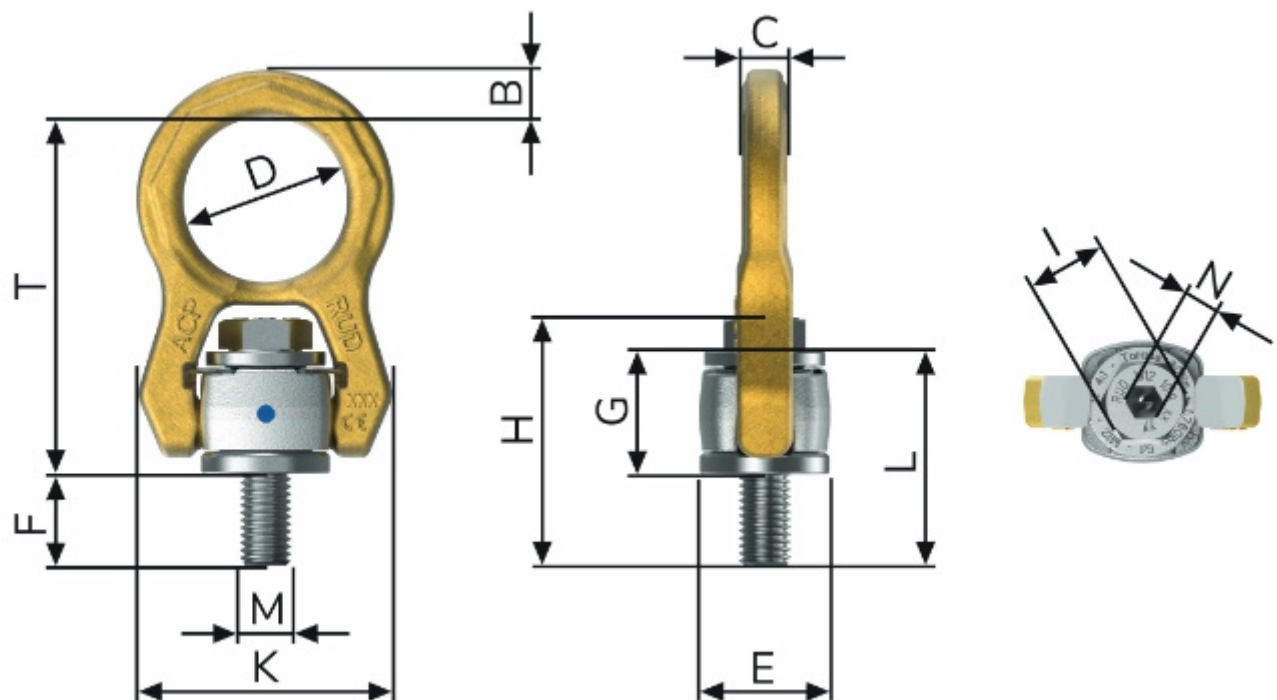
4.4 Disposal

Dispose of worn-out components / accessories or packaging in accordance with local regulations and provisions.

Type	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	K [mm]	L [mm]	M	N [SW]	I [SW]	T [mm]	Weight kg	Torque [Nm]	Art.-Nr.
ACP-TURANDO OCEANSTAR 0,5t-M8	11	10,5	38	30	12	28	45	58	40	M8	5	13	83	0,36	30	7914754
ACP-TURANDO OCEANSTAR 0,8t-M10	11	10,5	38	30	17	28	50,4	58	45	M10	6	17	83	0,37	60	7914755
ACP-TURANDO OCEANSTAR 1t-M12	11	10,5	38	30	22	28	54,5	58	50	M12	8	19	83	0,38	80	7914756
ACP-TURANDO OCEANSTAR 2t-M16	14	14	50	40	24	36	68	76	60	M16	10	24	107	0,88	150	7914757
ACP-TURANDO OCEANSTAR 3,5t-M20	17	17	50	45	31,5	43,5	82,5	89	75	M20	12	30	118	1,4	300	7914758
ACP-TURANDO OCEANSTAR 5t-M24	23	23	66	60	25	55	104	121	80	M24	14	36	154	3,2	500	7914759
ACP-TURANDO OCEANSTAR 8t-M30	29	27	76	75	41,5	68,5	129	148	110	M30	17	46	183	5,7	800	7914760

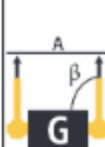
5.2 Maßübersicht ACP-TURANDO OCEANSTAR-Vario

Type	WLL [kg]	F vario [mm]	H vario [mm]	L vario [mm]	M	Artikel-Nr.
ACP-TURANDO OCEANSTAR 0,5t-M8	500	8-77	45-110	40-105	M8	8600680
ACP-TURANDO OCEANSTAR 0,8t-M10	800	10-97	50-131	45-125	M10	8600681
ACP-TURANDO OCEANSTAR 1t-M12	1000	12-117	55-150	50-145	M12	8600682
ACP-TURANDO OCEANSTAR 2t-M16	2000	16-194	68-240	60-230	M16	8600684
ACP-TURANDO OCEANSTAR 3,5t-M20	3500	20-186,5	82-242	75-230	M20	8600686
ACP-TURANDO OCEANSTAR 5t-M24	5000	24-210	104-280	80-265	M24	8600688
ACP-TURANDO OCEANSTAR 8t-M30	8000	30-271,5	129-353	110-340	M30	8600689

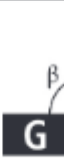


Load Capacity Overview ACP-TURANDO OCEANSTAR

Safety Factor 4:1

Suspension Type											
No. of strands	1	1	2	2	2	2	2	3 / 4	3 / 4	3 / 4	
Inclination Angle β	0°-7°	90°	0°-7°	90°	0-45°	>45-60°	Un-symm.	0-45°	>45-60°	Unsymm.	
Factor	1	1	2	2	1,4	1	1	2,1	1,5	1	
Sicherheitsfaktor 4:1	Safety Factor 4:1 for max. total load weight in Tons bolted and set in the direction of pull										
	ACP-TURANDO OCEANSTAR M8	0,7	0,5	1,4	1	0,71	0,5	0,5	1,06	0,75	0,5
	ACP-TURANDO OCEANSTAR M10	1	0,8	2	1,6	1,12	0,8	0,8	1,7	1,18	0,8
	ACP-TURANDO OCEANSTAR M12	1,35	1	2,7	2	1,4	1	1	2,1	1,5	1
	ACP-TURANDO OCEANSTAR M16	2,5	2	5	4	2,8	2	2	4,25	3	2
	ACP-TURANDO OCEANSTAR M20	4	3,5	8	7	4,9	3,5	3,5	7,35	5,25	3,5
	ACP-TURANDO OCEANSTAR M24	6,3	5	12,6	10	7,1	5	5	10,6	7,5	5
	ACP-TURANDO OCEANSTAR M30	8	8	16	16	11,2	8	8	17	11,8	8
	Safety Factor 4:1 for max. total load weight in Lbs bolted and set in the direction of pull										
	ACP-TURANDO OCEANSTAR M8	1540	1100	3080	2200	1550	1100	1100	2330	1650	1100
	ACP-TURANDO OCEANSTAR M10	2200	1760	4400	3520	2480	1760	1760	3730	2640	1760
	ACP-TURANDO OCEANSTAR M12	2970	2200	5940	4400	3110	2200	2200	4660	3300	2200
	ACP-TURANDO OCEANSTAR M16	5500	4400	11000	8800	6220	4400	4400	9330	6600	4400
	ACP-TURANDO OCEANSTAR M20	8820	7700	17640	15400	10880	7700	7700	16330	11550	7700
	ACP-TURANDO OCEANSTAR M24	13890	11000	27780	22000	15550	11000	11000	23330	16500	11000
	ACP-TURANDO OCEANSTAR M30	17630	17630	35260	35260	24930	17630	17630	37400	26440	17630

Safety Factor 5:1

Suspension Type										
No. of strands	1	1	2	2	2	2	2	3 / 4	3 / 4	3 / 4
Inclination Angle β	0°-7°	90°	0°-7°	90°	0-45°	>45-60°	Un-symm.	0-45°	>45-60°	Unsymm.
Factor	1	1	2	2	1,4	1	1	2,1	1,5	1
Safety Factor 5:1 for max. total load weight in Tons bolted and set in the direction of pull										
ACP-TURANDO OCEANSTAR M8	0,56	0,4	1,12	0,8	0,56	0,4	0,4	0,84	0,6	0,4
ACP-TURANDO OCEANSTAR M10	0,8	0,64	1,6	1,28	0,9	0,64	0,64	1,35	0,96	0,64
ACP-TURANDO OCEANSTAR M12	1,1	0,8	2,2	1,6	1,12	0,8	0,8	1,7	1,18	0,8
ACP-TURANDO OCEANSTAR M16	2	1,6	4	3,2	2,2	1,6	1,6	3,4	2,4	1,6
ACP-TURANDO OCEANSTAR M20	3,2	2,8	6,4	5,6	3,96	2,8	2,8	5,94	4,2	2,8
ACP-TURANDO OCEANSTAR M24	5	4	10	8	5,6	4	4	8,4	6	4
ACP-TURANDO OCEANSTAR M30	6,4	6,4	12,8	12,8	9	6,4	6,4	13,5	9,6	6,4
Safety Factor 5:1 for max. total load weight in Lbs bolted and set in the direction of pull										
ACP-TURANDO OCEANSTAR M8	1230	880	2460	1760	1240	880	880	1860	1320	880
ACP-TURANDO OCEANSTAR M10	1760	1410	3520	2820	1990	1410	1410	2990	2110	1410
ACP-TURANDO OCEANSTAR M12	2380	1760	4760	3520	2480	1760	1760	3730	2640	1760
ACP-TURANDO OCEANSTAR M16	4400	3520	8800	7040	4970	3520	3520	7460	5280	3520
ACP-TURANDO OCEANSTAR M20	7040	6170	14080	12340	8720	6170	6170	13080	9250	6170
ACP-TURANDO OCEANSTAR M24	11080	8810	22160	17620	12450	8810	8810	18680	13210	8810
ACP-TURANDO OCEANSTAR M30	14080	14080	28160	28160	19910	14080	14080	29860	21120	14080

Sicherheitsfaktor 5:1